

EXPEDITED PROCEDURE – EXAMINING GROUP 2819

S/N 10/786,677

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Stewart S. Taylor et al.	Examiner:	Lam T. Mai
Serial No.:	10/786,677	Group Art Unit:	2819
Filed:	February 25, 2004	Docket No.:	884.B91US1
Title:	AMPLIFIER DISTORTION MANAGEMENT APPARATUS, SYSTEMS, AND METHODS (As Amended)		
Customer Number:	21186		

PRE-APPEAL BRIEF REQUEST FOR REVIEW

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Commissioner for Patents
P.O. Box 1450
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The Applicant requests review of the final rejection in the above-identified Application. No amendments are being filed with this Request, which is filed with a Notice of Appeal, and made for the reasons stated below. If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

§102 Rejection of the Claims

Claims 1-5, 7, and 16-24 were rejected under 35 USC § 102(b) as being anticipated by Dolman (U.S. 6,396,345; hereinafter “Dolman”). Because the Office has not established a *prima facie* case of anticipation, the Applicant respectfully traverses this rejection of the claims.

In the Final Office Action, it is asserted that “Dolman discloses ... an amplifier (122) to produce an output (128) and receive an input (119) including a phase adjustable (118) to adjust phase in response to an output having indication of amplitude (124 and 150) to reduce a phase error.” However, a careful reading of Dolman reveals that this assertion is incorrect.

Dolman actually discloses an adaptive pre-distorter that adjusts gain and phase in response to residual gain and phase errors, respectively. *See* Dolman, FIG. 1 and Col. 8, lines 33-40. This operation can best be understood by reviewing the description provided by Dolman, as follows.

A linear power amplifier 100 is constructed so that an RF input signal 110 is applied to a high power amplifier 122 via a directional coupler 112, a first delay line 114, an amplitude

modulator 116, and a phase modulator 118. *See Id.* at Col. 6, lines 4-9. The RF input signal 110 is connected to an adaptive pre-distorter subsystem 170 via an envelope detector 134; residual gain and phase error 182, 184 signals also drive the pre-distorter subsystem 170. *See Id.* at FIG. 1 and Col. 6, lines 6-49. “The adaptive pre-distorter subsystem 170 generates two outputs: a gain correction signal 192 which is connected to the control port of first amplitude modulator 116; and a phase correction signal 194 which is connected to the control port of phase modulator 118.” *Id.* at Col. 6, lines 16-20. Thus, these correction signals 192, 194 are a function of the input 110, and the residual gain and phase error 182, 184 signals. *See Id.* at FIG. 1.

According to Dolman:

“[t]he output of the gain error detector mentioned above is integrated and amplified to provide a control signal that modulates a gain control element between the pre-distorter and the power amplifier itself. Similarly, the output of the phase error detector mentioned above is integrated and amplified to provide a control signal that modulates a phase control element between the pre-distorter and the power amplifier. *Id.* at Col. 8, lines 33 to 40.

Thus, Dolman explicitly teaches that the phase of the input signal 119 to the amplifier 122 is adjusted by the phase correction signal 194 in response to the phase error between the input signal 110 and the output signal 128, and not in response to the indication of an amplitude of the output signal 128 (as claimed by the Applicant in independent claims 1, 8, 11, 22 and 26). Therefore, FIG. 1 of Dolman does not teach the identical invention claimed by the Applicant, as the Office asserts, and the rejected claims should all be in condition for allowance. Reconsideration and withdrawal of the rejection under 35 U.S.C §102(b) is respectfully requested.

§103 Rejection of the Claims

Claims 8-10 and 25 were rejected under 35 USC § 103(a) as being unpatentable over Dolman in view of Prasad et al. (U.S. 6,515,540; hereinafter “Prasad”). Claims 11-14 were rejected under 35 USC § 103(a) as being unpatentable over Dolman in view of Miyatani (U.S. 6,388,518; hereinafter “Miyatani”). Since a *prima facie* case of obviousness has not been established in each case, the Applicant respectfully traverses these rejections.

No combination of Dolman and Prasad or Miyatani renders all of the claim limitations. As noted above, Dolman does not teach “a second amplifier responsive to a second input signal, wherein the second input signal includes an adjustable phase to be adjusted in response to an indication of an amplitude of an output signal to reduce a phase distortion” (independent claim 8), or “an amplifier to produce an output signal and to receive an input signal including an adjustable phase to be adjusted in response to an indication of an amplitude of the output signal to reduce a phase distortion of the amplifier” (independent claim 11) or “detecting an indication of an amplitude of an output signal of an amplifier; and adjusting a phase of an input signal of the amplifier responsive to the indication to reduce a change in a phase of the output signal” (independent claim 22) as claimed by the Applicant. Neither do Prasad or Miyatani. Therefore, since there is no evidence in the record that combining Dolman and Prasad or Miyatani will result in what is claimed by the Applicant, it is respectfully requested that the rejection of claims 8-14 and 25 under 35 U.S.C. § 103(a) be reconsidered and withdrawn, since any claim depending from a nonobvious independent claim is also nonobvious. See M.P.E.P. § 2143.03.

§101 Rejection of the Claims

Claims 22-25 were rejected under 35 USC § 101 because it is alleged by the Office that the claimed invention is directed to non-statutory subject matter. The Applicant respectfully traverses.

To begin, the court in *Alappat* had the following to say with respect to computers programmed to carry out executable instructions:

“Alappat admits that claim 15 would read on a general purpose computer programmed to carry out the claimed invention, but argues that this alone also does not justify holding claim 15 unpatentable as directed to nonstatutory subject matter. We agree. We have held that such programming creates a new machine, because a general purpose computer in effect becomes a special purpose computer once it is programmed to perform particular functions pursuant to instructions from program software. . . . The Supreme Court has never held that a programmed computer may never be entitled to patent protection. . . . Consequently, a computer operating pursuant to software may represent patentable subject matter, provided, of course, that the claimed subject matter meets all of the other requirements of Title 35.” *In re Alappat*, 31 USPQ 2d 1545, 1558 (Fed. Cir. 1994) (en banc)

Claims 22-25 recite the structure of “an article comprising a machine-accessible medium having associated information, wherein the information, when accessed, results in a machine performing...”. The activities performed comprise the same elements as those listed in the method of claim 16 (which was not rejected under 35 USC § 101). Claim 22 includes structure that has been added to the elements recited in claim 16: an article comprising a machine-accessible medium. Therefore the Applicant respectfully traverses the rejection of claims 22-25 under § 101 because these claims are directed to an article of manufacture, and as such, constitute patentable subject matter under § 101.

As stated by the Office guidelines for examination, “[i]n many instances it is clear within which of the enumerated categories a claimed invention falls. Even if the characterization of the claimed invention is not clear, this is usually not an issue that will preclude making an accurate and correct assessment with respect to the section 101 analysis. The scope of 35 U.S.C. § 101 is the same regardless of the form or category of invention in which a particular claim is drafted. *AT&T*, 172 F.3d at 1357, 50 USPQ2d at 1451 . See also *State Street*, 149 F.3d at 1375, 47 USPQ2d at 1602 wherein the Federal Circuit explained

The question of whether a claim encompasses statutory subject matter should not focus on which of the four categories of subject matter a claim is directed to -- process, machine, manufacture, or composition of matter -- [provided the subject matter falls into at least one category of statutory subject matter] but rather on the essential characteristics of the subject matter, in particular, its practical utility.”

Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, pg. 15, October 2005.

In addition, it is respectfully noted that “[w]hile abstract ideas, natural phenomena, and laws of nature are not eligible for patenting, methods and products employing abstract ideas, natural phenomena, and laws of nature to perform a real-world function may well be. In evaluating whether a claim meets the requirements of section 101, the claim must be considered as a whole to determine whether it is for a particular application of an abstract idea, natural phenomenon, or law of nature, rather than for the abstract idea, natural phenomenon, or law of


nature itself.” *Id.* at pgs. 17-18. The Appellant’s claimed article of manufacture, comprising a machine-accessible medium having associated information, which when accessed, results in a machine performing a series of activities (e.g., detecting an indication of an amplitude of an output ..., and adjusting a phase of an input signal ...) is clearly a practical application that achieves a **useful**, **concrete**, and **tangible** final result, as defined in the guidelines. *See Id.* at pgs. 20-22. The Applicant therefore respectfully requests that the rejection of claims 22-25 under 35 USC § 101 be reconsidered and withdrawn.

Respectfully submitted,

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